

l22_topdim_1

(TMbk7xZLcgZ4AKAzE9AWeHhyvYMu7cCi1fk)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v2_topdim_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_topdim_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_topdim_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_topdim_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow \\
 & (\forall X2.(v1_int_1 X2) \Rightarrow (((v2_topdim_1 X1 X0) \wedge (r1_xxreal_0 \\
 & (k3_topdim_1 X0 X1) X2)) \Rightarrow ((r1_xxreal_0 (k1_real_1 np_1) X2) \wedge \\
 & (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow \\
 & ((X3 \in X1) \Rightarrow ((v1_topdim_1 X3 X0) \wedge (r1_xxreal_0 (k2_topdim_1 X0 X3) \\
 & X2)))))) \wedge (((r1_xxreal_0 (k1_real_1 np_1) X2) \wedge (\forall X3.(\\
 & m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X3 \in X1) \Rightarrow ((v1_topdim_1 \\
 & X3 X0) \wedge (r1_xxreal_0 (k2_topdim_1 X0 X3) X2)))))) \Rightarrow ((v2_topdim_1 \\
 & X1 X0) \wedge (r1_xxreal_0 (k3_topdim_1 X0 X1) X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 \\
 & X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\
 & k2_xboole_0 X1 X2)
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 \\
 & X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (m1_subset_1 (k4_subset_1 \\
 & X0 X1 X2) (k1_zfmisc_1 X0))
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\
 & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1)))
 \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow \\ & (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0))))\Rightarrow(\forall X3.(v1_int_1\ X3)\Rightarrow(((v2_topdim_1\ X1\ X0)\wedge((v2_topdim_1 \\ & X2\ X0)\wedge((r1_xxreal_0\ (k3_topdim_1\ X0\ X1)\ X3)\wedge(r1_xxreal_0\ (k3_topdim_1 \\ & X0\ X2)\ X3))))\Rightarrow((v2_topdim_1\ (k4_subset_1\ (k1_zfmisc_1\ (u1_struct_0 \\ & X0))\ X1\ X2)\ X0)\wedge(r1_xxreal_0\ (k3_topdim_1\ X0\ (k4_subset_1\ (k1_zfmisc_1 \\ & (u1_struct_0\ X0))\ X1\ X2))\ X3)))))) \end{aligned}$$